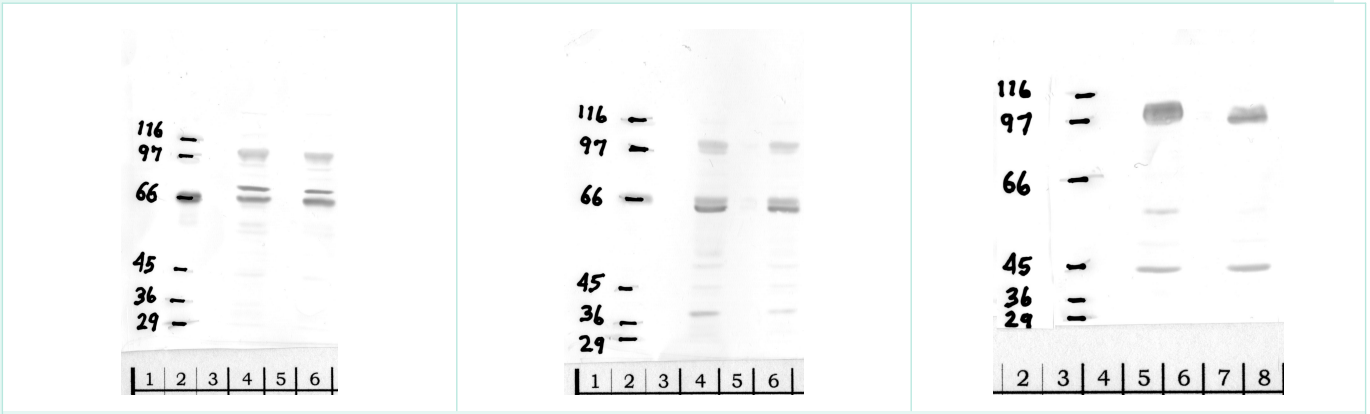
Anti-DPP8 Rabbit Polyclonal Antibody

Dipeptidyl peptidase 8, DP8, EC 3.4.14.5, Dipeptidyl peptidase IV-related protein 1, DPRP-1, Dipeptidyl peptidase VIII, DPP VIII, Prolyl dipeptidase DPP8,

Gene: DPP8 **UniProt:** Q6V1X1 **Host:** Rabbit **Clonality:** Polyclonal (pAb)

Product Image



Aminterminal end
RP1DPP8

spacer region
RP2DPP8

Catalytic domain
RP3DPP8

— Western Blot (3-panel validation across domain-specific antibody clones)

Actual Western blot validation for anti-DPP8 rabbit polyclonal antibody. 3-panel validation across domain-specific antibody clones — each panel labeled with its catalog number and target domain. Reducing conditions; 10–20 µg/lane on 7.5–10% SDS-PAGE.

Key Product Facts

Supplier	Triple Point Biologics, Inc. (Sudbury, Ontario, Canada)
Product Name	Anti-DPP8 Rabbit Polyclonal Antibody
Gene Symbol	DPP8
Alternative Names	Dipeptidyl peptidase 8, DP8, EC 3.4.14.5, Dipeptidyl peptidase IV-related protein 1, DPRP-1, Dipeptidyl peptidase VIII, DPP VIII, Prolyl dipeptidase DPP8,
UniProt ID	Q6V1X1
Host Species	Rabbit
Clonality	Polyclonal (pAb)
Isotype	IgG
Concentration	1mg/ml
Purity	Affinity purified
Pack Size	100ug
Validated Application	WB
Recommended Dilution	WB-1/1000
Species Reactivity	Validated- Human Potential-Mouse, Rat, Pan, Monkey, Dog
Immunogen Type	Synthetic Peptide from Uniprot Sequence
Conjugation	none
Buffer / Preservatives	Sodium Chloride 500 mM, Sodium Phosphate 10 mM, Potassium Phosphate 1.8 mM, Potassium Chloride 2.7 mM, Glycerol 50% (v/v)
Website	triplepointbiologics.com/anti-dpp-8-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of DPP8. Each variant is directed at a specific structural region of the protein. Exact peptide sequences are proprietary; each variant is validated for the applications listed.

Domain / Variant	Epitope Region (approx. residues)	Cat. No.	Availability

Aminterminal end	**1–51** Region within the extreme N-terminal segment of human DPP8, preceding the structured beta-propeller domain; this unstructured N-terminal stretch is unique to DPP8 relative to DPP4 and lies upstream of the first blade of the beta-propeller	RP1DPP8	In catalog
Spacer region	**~420–530** Region spanning the linker segment connecting the C-terminal edge of the beta-propeller domain to the entrance of the alpha/beta-hydrolase catalytic domain in human DPP8, a structurally flexible interdomain spacer not present in equivalent form in DPP4	RP2DPP8	In catalog
Catalytic domain	**1–898** Region within the C-terminal alpha/beta-hydrolase domain of human DPP8, which houses the canonical Ser-Asp-His catalytic triad responsible for dipeptidyl peptidase activity; this domain is the site of competitive and covalent inhibitor binding	RP3DPP8	In catalog
—	**1–898** Broad-coverage antigen spanning multiple structural domains of human DPP8, including the N-terminal segment, the beta-propeller domain, the interdomain linker, and the alpha/beta-hydrolase catalytic domain; suitable for detection applications where epitope mapping to a single structural region is not required	RP-DPP8	In catalog

Applications & Recommended Dilutions

App.	Species	Dilution Range	Notes
WB	Validated-Human Potential-Mouse, Rat, Pan, Monkey, Dog	1:1000	Optimal dilution should be determined per laboratory and lot.

Optimal dilutions should be determined by each laboratory for each application. Triple Point Biologics antibodies include a peptide-neutralized negative control aliquot for specific-signal confirmation.

Storage & Handling

Short-term Storage	+4°C (1–2 weeks)
Long-term Storage	Aliquot and store at -20°C
Shipping Conditions	Shipped in styrofoam cooler on blue ice

Hazard Warning	Product may contain Sodium Azide — POISONOUS AND HAZARDOUS. Handle by trained personnel only.
Shelf Life	12 months from date of receipt under recommended conditions

Target Background

Family & General Biology

Dipeptidyl peptidase 8 (DPP8; EC 3.4.14.5) is a cytoplasmic serine protease belonging to the S9B prolyl peptidase subfamily, which also includes DPP4, DPP9, and FAP. Unlike DPP4, DPP8 lacks a transmembrane domain and GPI-anchor signal, confining its activity to the cytosol. The 898-amino-acid enzyme cleaves N-terminal dipeptides from substrates carrying proline or alanine at the penultimate (P1) position, a specificity shared across S9B family members. DPP8 and DPP9 are the closest paralogues, sharing approximately 60% sequence identity and overlapping substrate profiles, though they are non-redundant in cellular function.

Expression & Localisation

DPP8 is broadly expressed across human tissues, with transcript and protein detected in liver, kidney, testis, brain, lung, and immune cell populations including monocytes, macrophages, and dendritic cells. The protein localises to the cytosol and, in some cell types, associates with perinuclear compartments. Expression levels are generally higher in tissues with active immune surveillance. In contrast to the closely related DPP4, DPP8 is not shed into the circulation and does not appear on the cell surface, making its biological activity entirely intracellular.

Activation Mechanism & Structural Architecture

DPP8 is synthesised as a constitutively active enzyme; no zymogen processing is required for catalytic competence. The protein contains an N-terminal beta-propeller domain and a C-terminal alpha/beta-hydrolase catalytic domain housing the canonical Ser-Asp-His catalytic triad. The enzyme functions as a homodimer, a quaternary arrangement shared with DPP9. The beta-propeller domain contributes to substrate selectivity by forming part of the substrate entry tunnel. Structural studies have shown that DPP8 adopts a closed conformation relative to DPP4, restricting access to large folded substrates and favouring short peptide-based substrates.

Non-Catalytic Inflammasome Regulation

Beyond peptide cleavage, DPP8 plays a critical scaffolding role in innate immune regulation. In resting monocytes and macrophages, DPP8 (together with DPP9) constitutively suppresses NLRP1 and CARD8 inflammasomes by sequestering their cleaved C-terminal fragments — the functional units capable of driving ASC-independent or ASC-dependent caspase-1 activation — within ternary inhibitory complexes. This non-proteolytic mechanism prevents spontaneous inflammasome oligomerisation and caspase-1-dependent pyroptosis under basal conditions. Importantly, this suppressive function requires physical interaction with the inflammasome sensor fragments rather than their proteolytic degradation.

Inhibitors & Pharmacological Probes

DPP8 is potently inhibited by the natural product Val-boroPro (talabostat, PT-100), a non-selective DPP inhibitor that also targets DPP9, DPP4, and FAP. Val-boroPro-mediated inhibition of DPP8/9 is sufficient to activate NLRP1 and CARD8 inflammasomes and trigger pyroptosis in monocytes and macrophages. More selective tool compounds have been developed to dissect DPP8- versus DPP9-specific contributions. The competitive inhibitor 1G244 shows preference for DPP8/9 over DPP4. Substrate-based and covalent inhibitors targeting the active-site serine have been characterised biochemically. No endogenous protein inhibitor analogous to TIMPs in the MMP field has been identified for DPP8.

Disease Relevance

Pharmacological activation of DPP8/9-regulated pyroptosis has attracted interest in oncology, where selective induction of caspase-1-dependent cell death in haematological malignancies is being explored. NLRP1 and CARD8 inflammasome activation downstream of DPP8 inhibition drives IL-1β and IL-18 release, with potential consequences in autoinflammatory disease contexts. In the nervous system, cytosolic dipeptidyl peptidases including DPP8 have been implicated in neuropeptide processing. Loss-of-function variants in DPP8 have been associated with altered inflammatory thresholds in population studies. The gene is not yet linked to a specific Mendelian OMIM disease entry but remains under active investigation in the context of inflammasome biology and cancer immunotherapy.

Gene & Protein Reference

Gene Symbol	DPP8
HGNC	HGNC:18958
NCBI Gene ID (Human)	29952
NCBI Gene ID (Mouse)	72823
Ensembl	ENSG00000197142
OMIM	—
UniProt (Human)	Q6V1X1
UniProt (Mouse)	Q8BVQ2
Protein Family	Peptidase S9B (prolyl oligopeptidase) family
Predicted MW	~101 kDa
Observed MW	~100–105 kDa (SDS-PAGE)
Chromosome	15q22.2
Paralogue	DPP9 (~60% sequence identity); also DPP4, DPP6, DPP10, FAP
Key Substrates	N-terminal dipeptides from substrates with Pro or Ala at P1 position; physiological peptide substrates include neuropeptides and cytokine precursors
Activated by	Constitutively active; no zymogen processing required
Inhibited by	Val-boroPro (talabostat/PT-100); 1G244; substrate-competitive and covalent active-site serine inhibitors

About Triple Point Biologics

With over 30 years dedicated to antibody production, Triple Point Biologics is a Canadian company and the premier resource for proteinase and proteinase inhibitor research. Products have been cited in thousands of peer-reviewed publications.

The domain-specific antibody strategy — available in standard, ATK, SPA, and GSK kit formats — delivers predefined epitopes, built-in peptide-neutralized negative controls, and superior specificity for Western blot.

Website: www.triplepointbiologics.com

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Product specifications subject to change. Contact Triple Point Biologics for current product and availability information.